KSD5005

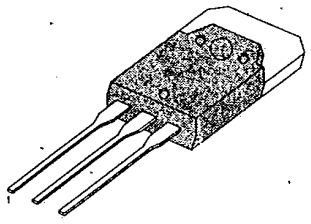
NPN TRIPLE DIFFUSED PLANAR SILICON TRANSISTOR

T-33-13

COLOR TV HORIZONTAL OUTPUT APPLICATIONS

HIGH Collector-Base Voltage V_{CBO}=1500V

TO-3P



1. Base 2. Collector 3. Emitter

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	1500	V
Collector-Emitter Voltage	V_{CEO}	800	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current	I_C	3.5	A
Collector Current (Peak)	I_C	10	A
Collector Dissipation (T_C=25°C)	P_C	80	W
Junction Temperature	T_J	150	°C
Storage Temperature	Tstg	−55~150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{CB}=800V, I_E=0			10	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V, I_C=0			1	mA
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=0.5A	8			
Collector Emitter Saturation Voltage	V_{CE}(sat)	I_C=2.5A, I_B=0.8A			8	V
Base Emitter Saturation Voltage	V_{BE}(sat)	I_C=2.5A, I_B=0.8A			1.5	V
Current Gain Bandwidth Product	f_T	V_{CE}=10V, I_C=0.5A		3		MHz
Fall Time	t_f	I_C=3A, I_{B1}=0.8A I_{B2}=−1.6A, V_{CC}=200V RL=66.7Ω			0.4	μS

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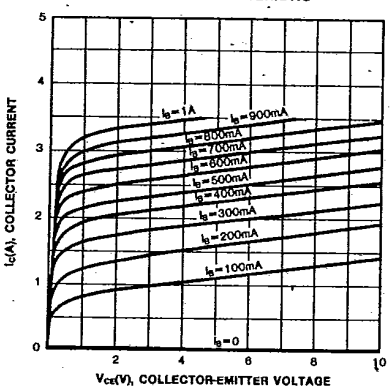
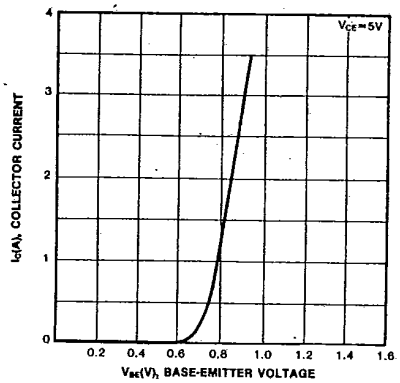
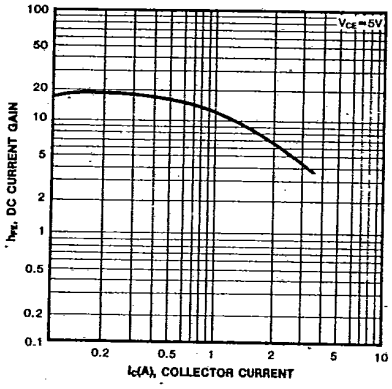
STATIC CHARACTERISTIC



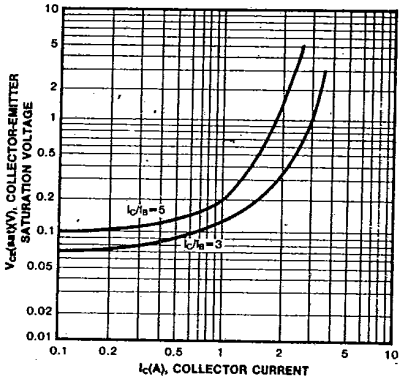
BASE-EMITTER ON VOLTAGE



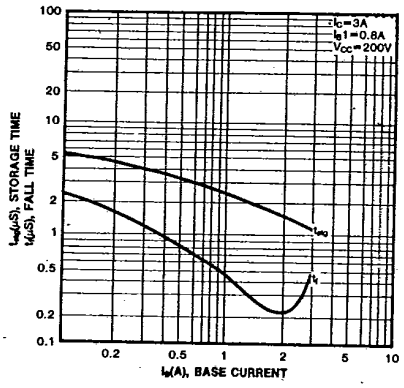
DC CURRENT GAIN



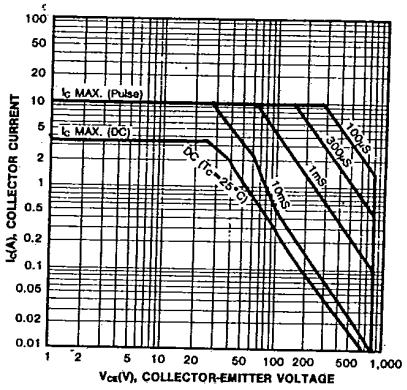
COLLECTOR-EMITTER SATURATION VOLTAGE



TURN ON TIME



SAFE OPERATING AREA



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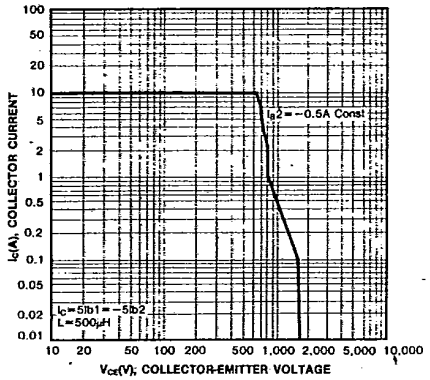
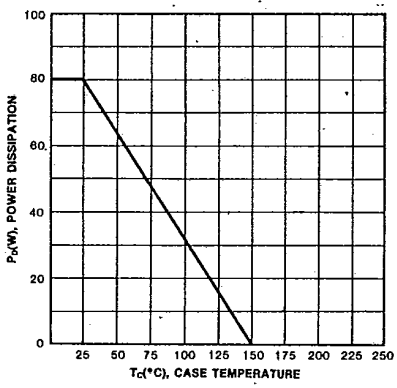
REVERSE BIAS SAFE OPERATING AREA



POWER DERATING



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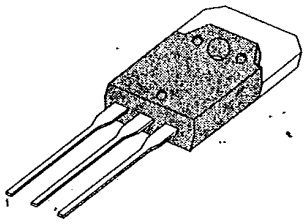
TO-3P



1. Base 2. Collector 3. Emitter

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	1500	V
Collector-Emitter Voltage	V_{CEO}	800	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current	I_C	5	A
Collector Current (Peak)	I_C	16	A
Collector Dissipation (T_C=25°C)	P_C	120	W
Junction Temperature	T_J	150	°C
Storage Temperature	Tstg	−55~150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{CB}=800V, I_E=0			10	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V, I_C=0			1	mA
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=1A	8			
Collector Emitter Saturation Voltage	V_{CE}(sat)	I_C=4A, I_B=0.8A			5	V
Base Emitter Saturation Voltage	V_{BE}(sat)	I_C=4A, I_B=0.8A			1.5	V
Current Gain Bandwidth Product	f_T	V_{CE}=10V, I_C=1A		3		MHz
Fall Time	t_f	I_C=4A, I_{B1}=0.8A I_{B2}=−1.6A, V_{CC}=200V RL=50Ω			0.4	μS

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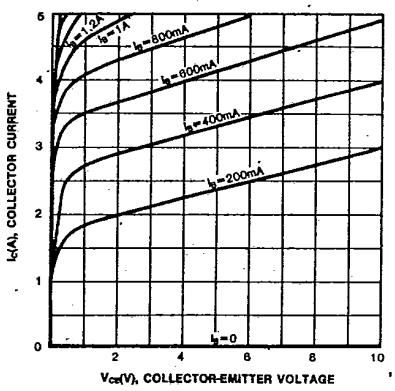
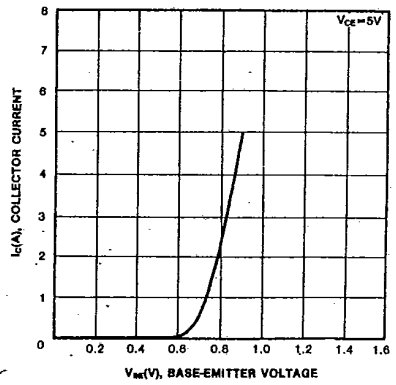
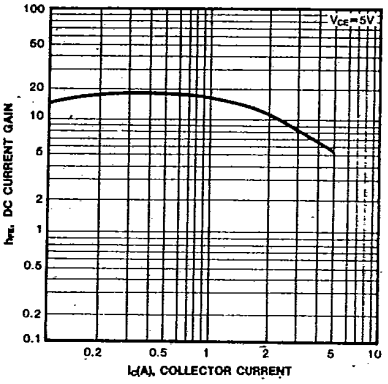
STATIC CHARACTERISTIC



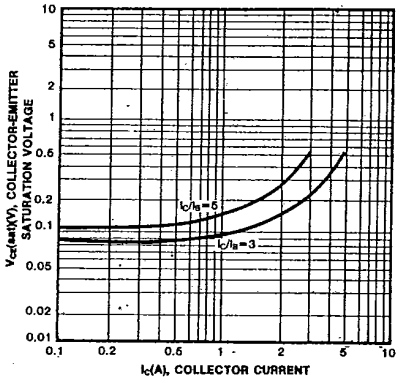
BASE-EMITTER ON VOLTAGE



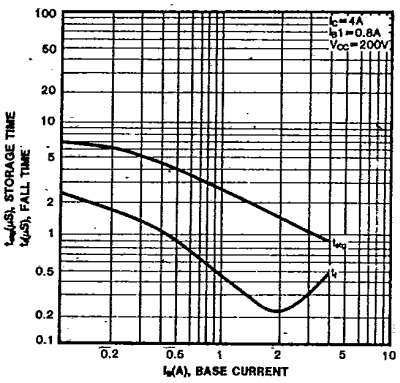
DC CURRENT GAIN



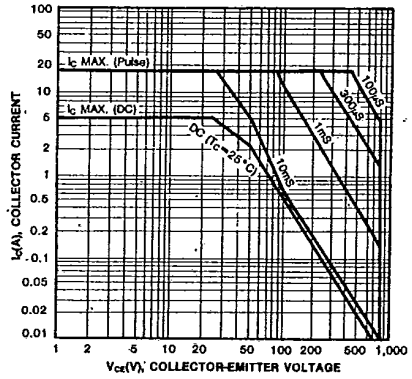
COLLECTOR-EMITTER SATURATION VOLTAGE



TURN ON TIME



SAFE OPERATING AREA



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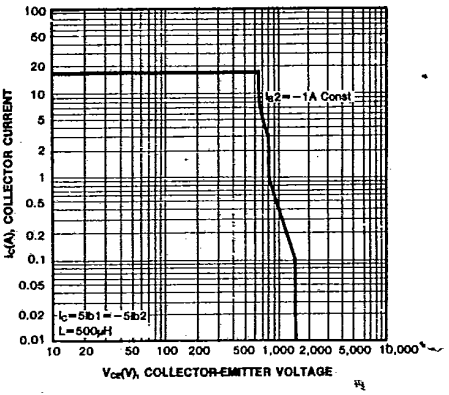

POWER DERATING